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Journal of the Society of Arts.

FRIDAY, NOVEMBER 5, 1869.

Announcements by the Council.

NOTICE TO MEMBERS.

The One-Hundred-and-Sixteenth Session of the Society will commence on Wednesday, the 17th November, when the Opening Address will be delivered by Lord HENRY G. LENNOX, M.P., Chairman of the Council, and when the Prince Consort's Prize, awarded at the last Examinations to Mr. William John Wilson, will be presented.

The following are the dates of the Wednesday evening meetings, the chair being taken at 8 o'clock:—

1869.	November	—	—	17	24	
	December	1	8	15	22	—
1870.	January	—	—	19	26	
	February	2	9	16	23	
	March	2	9	16	23	30
	April	6	—	20	27	
	May	4	11	18	25	
	June	—	—	—	—	29*

For the Meetings previous to Christmas, the following arrangements have been made:—

NOVEMBER 17.—Opening Address by Lord HENRY G. LENNOX, M.P., Chairman of the Council.

NOVEMBER 24.—“On Silk Supply.” By THOMAS DICKINS, Esq., Chairman of the Silk Supply Association.

DECEMBER 1.—“On an Improved Means for Laying a Tunnel for the Transit of Passengers across the Channel.” By ZERAH COLBURN, Esq., C.E.

DECEMBER 8.—“On Prints and their Production.” Being a sequel to a former paper, entitled “Engraving and other Reproductive Art Processes.” By S. T. DAVENPORT, Esq.

DECEMBER 15.—“On India-rubber, its History, Commerce, and Supply.” By J. COLLINS, Esq.

DECEMBER 22.—“On the Recent Improvements in Small Arms, British and Foreign.” By Capt. O’HEA.

A book of blank Tickets of Admission to the Meetings will be sent to each Member, who is privileged to introduce two friends to each Meeting on their presenting orders signed by him. Additional Tickets will be forwarded on application.

The first Course of Cantor Lectures for the ensuing Session will be “On the Spectroscope and its Applications,” by J. NORMAN LOCKYER, Esq., F.R.S., and will consist of three Lectures, to be delivered on Monday Evenings, the 6th, 13th, and 20th December, at Eight o’clock. Other courses will also be given during the Session, one, by A. W. WILLIAMSON, Esq., F.R.S., Professor of Chemistry in University College, London, “On Fermentation, especially

in connexion with M. Pasteur’s Researches,” having been already arranged. These Lectures are open to Members, each of whom has the privilege of introducing two friends to each Lecture. Tickets for this purpose will be forwarded in due course.

Members are reminded that, should any of their friends wish to join the Society, the opening of the Session is a favourable opportunity for proposing them.

NATIONAL EDUCATION UNION.

The Council met on Monday last, the 15th inst., and resolved that a donation of twenty guineas be given to the National Education Union, which meets at Manchester during the present week, and that a deputation from the Council, with the Secretary, be requested to attend the meeting. The following letter has been addressed to the Secretary of the Union:—

Society for the Encouragement of Arts, Manufactures, and Commerce, 2nd November, 1869.

SIR,—I am directed by the Council of this Society to hand you a cheque for £21, as a donation to the National Education Union, and to attend the Manchester meeting with a deputation. Mr. Edwin Chadwick, C.B., and myself will form the deputation. The Council instruct me to point out that, in taking this action, they maintain that strict neutrality in regard to the programme of the Union which they carefully reserved in making a donation, and sending a deputation, to the National Education League. I enclose a copy of my letter to the League.* The Council recognise in the two bodies an earnest desire to promote the great object which the Society of Arts has at heart—an extended and improved education for the people at large.

I have the honour to be, Sir,

Your obedient servant,

P. LE NEVE FOSTER, Secretary.

The Rev. William Stanyer, M.A.

DEPUTATION TO THE PRESIDENT OF THE POOR LAW BOARD.

The Council have decided that a deputation shall wait on the Right Honourable James Goschen, M.P., President of the Poor-law Board, to protest against any extension of the system of child-farming, which is reported to have been introduced at Warwick, such system tending, in the opinion of the Council, to counteract the great exertions now being made to improve the system of general national education. The deputation is to consist of Sir Wm. Bodkin (Assistant Judge), Major-General Eardley-Wilmot, R.A., F.R.S., Mr. Edwin Chadwick, C.B., Mr. Hyde Clarke, D.C.L., and Mr. S. Redgrave.

SUBSCRIPTIONS.

The Michaelmas subscriptions are due, and should be forwarded by cheque or Post-office order, crossed “Coutts and Co.,” and made payable to Mr. Samuel Thomas Davenport, Financial Officer.

* The Annual General Meeting: the Chair will be taken at Four o’clock. No Visitors are admitted to this Meeting.

* See Journal, October 15th, p. 863.

Proceedings of Institutions.

UNION OF LANCASHIRE AND CHESHIRE INSTITUTES.

The annual meeting of the Union of Lancashire and Cheshire Institutes was held on Tuesday afternoon, in the news-room of the Manchester Mechanics' Institute. The chair was taken by Mr. Alderman RUMNEY.

Dr. PANKHURST read the report of the council, which stated that the soundness of their policy in administering the affairs of the Union was abundantly tested by the conspicuous success of many students of the several Institutes, and by the general state of vigour of all departments of the organisation. The number of Institutes now in union is 132, of which six have been admitted during the past year. The elementary examinations have been very generally used by the Institutes. About 2,300 examination papers were applied for by the several secretaries. About 1,600 candidates submitted themselves for examination. The non-success of the candidates who failed arose principally in respect of one or other of the subjects required to be taken in addition to arithmetic, viz., Gospel history, geography, English history, grammar, or dictation. It is a matter suggestive of serious reflection to observe that, out of 1,600 candidates belonging, by presumption at least, to the better and more aspiring members of the evening classes, 796, or less than 50 per cent., have succeeded in obtaining certificates. The elementary examination was held in March last. The following is a classified statement of the results:—The number of certificates gained was, in 1864, 72; 1865, 151; 1866, 339; 1867, 473; 1868, 583; and, in 1869, 796, of which 141 belonged to the higher grade, and 655 to the lower. The council are glad to be able to report a large increase of successful candidates at the final examination of the Society of Arts, which was held in April last. Candidates were sent in by 46 Institutes, of which 36 are in direct connection with the Society of Arts. The results of 1869 show an increase of 129 as compared with last year, as appears from the following statement. The totals of these certificates of the Society of Arts' Examinations were:—1864, 247; 1865, 281; 1866, 272; 1867, 397; 1868, 422; and in 1869, 551, of which 81 were in the first, 171 in the second, and 299 in the third class. In the examinations of the Science and Art Department, 2,897 students entered, of whom 1,905 obtained certificates. The Council record, with the greatest possible pleasure, the valuable educational effects which have arisen from the munificence of their chairman (Mr. Alderman Rumney). The Council have awarded the Rumney Science and Art Exhibition to W. H. Greenwood, of the Manchester Mechanics' Institute. Mr. Greenwood, however, having elected to hold the Royal School of Mines Exhibition, had resigned the Rumney Exhibition. The Council of the Union, therefore, with the sanction and approval of the donor, have decided to allow the exhibition to be held by Mr. J. A. Bennion, whose position in the examinations approached very nearly to that attained by Mr. Greenwood. The general results of the establishment of a special prize scheme had been highly satisfactory. The council have inaugurated a further and very important movement with regard to science-teaching. In August last, a conference of day-school teachers, secretaries of day-schools, and members of the council, was held in Manchester, when particulars of the organisation of the Manchester and District Pupil Teachers' Science Classes were arranged, and sectional classes instituted for instruction in geometrical and mechanical drawing, building construction, mathematics, theoretical and practical mechanics, inorganic chemistry, and animal physiology. The classes under this scheme were opened early in September, and 119 students are now under instruction. It is proposed next year to establish similar classes in some of the large towns of Lancashire and Cheshire. The Department of Science

and Art has this year awarded twenty-two medals to Lancashire students, viz., six gold, three silver, and thirteen bronze. Two exhibitions of the School of Mines have this year been awarded to Lancashire students, viz., one to W. H. Greenwood, of the Manchester Mechanics' Institute, and one to W. J. Walley, of the Preston Institute. These scholarships are of the value of £50, tenable for three years. The statement of receipts and expenditure of the Union for the year ending August 31st, 1869, showed an expenditure of £439 16s. 8d., leaving a balance due to the treasurer of £24 18s. 11d. The estimated liabilities are about £30; the subscriptions not yet paid—general, £8 8s.; institutes, £4. The council heartily acknowledge the extent to which the friends of education in the district have sustained the action of the union by their contributions and subscriptions. The council would further express their sincere satisfaction at the circumstance that though, throughout the area of the Union, the adverse influences of the depressed state of trade have been keenly felt, yet the financial position of the organisation has been prejudicially affected only in a very limited degree. The council would add that had it not been for the serious loss which arose in respect of the evening meeting of last year, the annual income of the Union would have been fully equal to the expenditure.

Mr. LAWTON, the visiting agent, read his report, which gave minute particulars of the formation and progress of classes in various districts.

The CHAIRMAN said that the reports which had just been read would afford great food for thought. There was much to rejoice at in their position. They had made considerable progress, and they occupied—though he ought not, perhaps, to say so—that proud and foremost position which they had occupied for some time. They stood first, and they had laboured, as he could testify, for many years in the direction of technical education, and in the direction of promoting science classes in Mechanics' Institutes. All this bore witness to the fact that the institutions were most prosperous where the most attention was given to these subjects. They had the gratification in the record they had heard read that their efforts had not been made in vain, but put them in advance of any other district in the country.

Mr. W. ROMAINE CALLENDER, jun., moved the adoption of the report. He said that he could not help contrasting the present condition of this Union with its position some few years ago, when it appeared to be stationary, and it had not that influence which it was destined to exercise, and which had since been so powerfully developed.

Dr. PANKHURST, in response to a vote of thanks to the officers of the past year, said that in no period in their history were they more justified in feeling confidence in their position than at present. The area and success of their work was greater than at any other period. There were men who owed all their training to the educational influences which were administered in Mechanics' Institutions, which showed that they were doing the right work, and doing it in the right way. Mechanics' Institutions were never in a more efficient state, and never at any time were higher expectations more justly formed of their influence than to-day. It might be said that the books they possessed were not read. But they were doing an arduous work. They were beginning at the beginning, and doing it on the right method, and, more than that, they were pursuing that right method perseveringly, for a sufficient length of time, over a sufficient number of subjects.

Dr. WATTS moved, and Mr. TRAICE seconded the following resolution, which was unanimously passed:—“That this meeting is highly gratified with the result of the several examinations of the past year, and strongly urges the importance of every institution having an efficient system of classes for primary and scientific instruction.”

The following resolution, moved by Mr. CLARKE (Macclesfield), seconded by Mr. SMITH (Staleybridge), was

passed, with four dissentients:—"That this meeting, composed of delegates of the Lancashire and Cheshire Associated Institutes, 132 in number, is of opinion that the present time is an opportune one for introducing an Education Bill, which shall make the attendance of scholars compulsory."

In the evening, the special prizes of the Union were distributed in the Town-hall, Manchester, by HUGH BIRLEY, Esq., M.P. After the prizes were distributed, he said that of late years public attention had been particularly directed to the subject of education. There was on all sides a universal desire to see that every individual in the country should receive a good primary education—that was to say, a good simple education, to fit him or her for the condition in life which he or she had to fulfil. There might be, and there were differences of opinion as to the mode in which this was best to be obtained; but, as to the result, there was substantially no difference whatever. After some remarks upon the advantages of study and reading, Mr. Birley regretted the indifference, almost amounting to reluctance, on the part of some of the working-classes to the education of their children.

Mr. Alderman RUMNEY proposed "That this meeting desires to express its sense of the necessity of the early establishment of a national system of primary education." He said that at the lowest computation there were 1,250,000 children who ought to be at school, and the question was now forced upon the attention of everybody, and so seized upon the public mind that a solution of it was inevitable. He pointed out that it was more economical to the country to have an educated than an uneducated working-class.

Mr. W. T. CHARLEY, M.P., supported the resolution. He said that the party with which he was connected had advocated compulsory education in connection with factories, and they had no reason to regret the course taken, and he trusted that the factory system would be extended much more widely, and the Print-works Act, which permitted 16 hours' continuous labour, and the Bleach-works Act, sanctioning labour without intermission after hours, might be repealed. With these laws, it was impossible for young men to take full advantage of Mechanics' Institutions.

SOUTH STAFFORDSHIRE EXHIBITION.

The South Staffordshire Exhibition of Industry and the Fine Arts, which was opened six months ago at Wolverhampton, by Earl Granville, was closed last month. There were present on the occasion Lords Dartmouth and Wrottesley, Mr. Weguelin, M.P.; Mr. Henry Cole, C.B.; the Mayors of Worcester and Kidderminster, and the Corporation of the borough of Wolverhampton. The official report states that a quarter of a million of people have visited the Exhibition, the largest number of visitors on one day, September 27, being 5,529. The receipts amounted to £8,541, and the expenditure to £7,183. A net balance, £1,200 was expected to accrue. Lord Wrottesley, as chairman of the Executive Committee, showed that the Exhibition was designed to benefit pecuniarily the South Staffordshire Institution for the Promotion of Adult Education and Night-schools, and the Wolverhampton School of Art. He spoke of the great gratification the promoters felt at the pecuniary success which had attended the Exhibition. When Earl Granville opened it, his playful allusion to such a satisfactory issue as a surplus was received with a merriment which clearly indicated the concurrence of the audience in the view of the speaker that such a result was extremely problematical. Mr. Cole received the fact of a surplus as the most conclusive testimony to the success of the Exhibition. The Committee had not made the show an *omnium gatherum*, but had confined themselves to works of art and industry, supplemented by an ample and beautifully-arranged garden, to which he chiefly attributed their success. He wished

that they were going to keep it. He was sure there must be some one in the exhibition now unable to carry into the next world the great wealth he possessed, who could afford to contribute the funds necessary for the purchase of the garden and the adjoining meadows for the use of the people of Wolverhampton as a public park, in which there should be a museum of natural history. There had been many suggestions as to the disposal of the surplus; his was that they should not fritter it away, but, determining to have another exhibition ten years hence, resolve to employ it in promoting the knowledge of science and art during that decade through their School of Art, which they should place in such a position as to give them a claim to the £1,000 to which he should be glad to be able to tell Lord de Grey that they had become entitled. Mr. Rupert Kettle, as chairman of the general committee, asked the Earl of Dartmouth to close the exhibition. He remarked that the fine art works in the exhibition which had created the greatest admiration were produced by David Cox, the son of a Birmingham blacksmith, and that the exhibition had tended to raise the character of the manufactures of the district in the estimation of the commercial world. Lord Dartmouth then declared the Exhibition closed. His Lordship had acted as chairman of the sub-committee for the fine arts, and he tendered the thanks of the promoters to those who had, by the loan of their pictures and otherwise, contributed so greatly to the success over which they all rejoiced.

THE REPORTS OF THE "DÉLÉGATIONS OUVRIÈRES" ON THE PARIS EXHIBITION.

(Continued from page 894.)

As will be seen from what follows, many schoolmasters have expressed themselves as being opposed to the system of mixed schools, and have also dwelt upon the insufficiency and bad management of education for girls. Some have suggested that they should be brought up by a more practical method, with a view to domestic usefulness; others that their instruction should be confined to sewing, knitting, mending, cooking, a knowledge of hygiene and rural economy; and, lastly, the suppression of the diploma (*lettre d'obédience*), which takes the place of the certificate of competency with religious schoolmistresses:—

"I abhor mixed schools."—(*Nord*.)

"Mixed schools are anti-social."—(*Pas-de-Calais*.)

"They are irrevocably condemned."—(*Ardennes*.)

"It is not a question of improving, but of establishing an education for girls in France."—(*Ardennes*.)

"The existence of mixed schools is the greatest drawback to primary education in the rural districts."—(*Eure-et-Loire*.)

"Needlework is rarely taught in mixed schools."—(*Seine-Inferieure*.)

"Article 51 of the law of 1850, compelling every village of 800 souls to support a school for girls, suspended, only for a time, the system of mixed schools. The vicar applied to the religious sisters to undertake the direction of the new school for girls. The schoolmaster was ruined by the opposition thus established. The boys' school was done away with, and a mixed school was organised under the direction of the sisters."—(*Indre-et-Loire*.)

"I shudder when I think of the schools for girls; and yet the education of girls is more important than that of boys."—(*Basses-Alpes*.)

"We should apply ourselves to bring up good housekeepers and good farmers'-wives."—(*Bas-Rhin*.)

"The clerical schoolmasters should be placed on the same footing as the laics. The schools on the term system (*école de stage*), and the religious diplomas (*lettres d'obédience*) should be suppressed."—(*Nord*.)

"Let the same legal conditions be imposed upon the clergy as upon the laics."—(*Nord*.)

"Religious bodies should be included in the common

law, Article 13, of the decree of the 23rd June, 1836, allowing sisters of charity, possessing the mere religious diplomas, to teach, should be suppressed. They should be required to obtain the certificate of competency after an examination."—(*Somme*.)

"I have a great aversion to the religious diplomas."—(*Oise*.)

"Why should the clergy be exempted from obtaining the certificate of competency? These religious diplomas, so easily obtained, will be the means of overthrowing the normal schools with the lay-mistresses."—(*Eure-et-Loir*.)

"All persons desirous of holding a school should be compelled to furnish a certificate of competency. The law of the 15th March, 1850, authorising the certificate of having kept the term (*certificat de stage*) and the religious diplomas, has resulted in favour of the religious bodies, who alone have profited by it."—(*Eure*.)

"I wish that the clergy were subjected to the common law, and that the fact of being clad in clerical costume were not sufficient to obtain the right of directing a school."—(*Cotes-du-Nord*.)

"Far from being any proof of competency, the religious diplomas do not even establish the identity of the holder."—(*Loire*.)

"Could it have been borne in mind that all citizens are all equally subject to the law, when the clergy were allowed to occupy the most important posts on the presentation of a mere religious diploma."—(*Nievre*.)

"The power given to religious bodies of substituting the diploma, or the letter of term (*lettre de stage*) for the certificate of competency, is a privilege that reminds us of those of the ancient monarchy."—(*Yonne*.)

During our inquiry into the subject, whence the above quotations have been obtained, and from arguments raised by certain schoolmasters opposed to free education, we have repeatedly heard the following remark:—"We are opposed to compulsory and free education, because unmarried people will thereby be forced to pay for those who have children." We would fain ask these egotists to whom belong the children "de la Rue d'Enfer" (Foundling Hospital)?

We recommend to the perusal of those opposed to education a work by M. Charles Robert, entitled, "On the Necessity of rendering Primary Education Compulsory in France," from which some useful lessons may be obtained.

As we have now quoted the opinions of some of the officers and subalterns of M. Duruy's force, we crave permission to express our own, as regards the method of organisation to be adopted for the object in view.

We would wish that primary schools should be divided into two distinct categories. The first to comprise children of both sexes under the age of ten; and we desire that more attention should be paid to their moral and physical training than to the learning of lessons acquired like parrots. It is difficult to educate a child until he be ten years of age.

From the nature of their dwellings, and from the exigencies of the work required of them in large centres, parents are not able to discharge the necessary duties towards maintaining the health and education of their children. A part of this task should fall on the schoolmaster or schoolmistress, even were it necessary, in order to raise the standard of their salaries in proportion to the new duties devolved on them, to suppress certain sinecures, and to change the method of rewarding those services which some are supposed to render to the nation.

A medical man should be engaged to visit the school once or twice a-week, for the sake of ascertaining whether due attention was being paid, in a scientific point of view, to the laws of hygiene; he should also examine the pupils one by one, and point out the nature

of exercise suited to each for the maintenance of good health. And these learned doctors would not certainly be found wanting in humanity and patriotism.

The medical men would consider it a pleasure, as well as a duty, to co-operate in the regeneration of the Gallic race, of which they are also descendants.

The expense of some gymnastic apparatus, such as was exhibited in class 91, would not be very great for a school; besides, there are so many exercises which require no other auxiliary than good-will. Even the natural games of childhood, properly regulated, would replace many expensive appliances.

From our own experience, we assert that a child under the age of ten has not sufficient powers of conception to derive much benefit from the lessons of the master, especially when the latter confines his explanations to book-work; we are further convinced that a child ten years old, who can only read, write, and cipher, will know as much at the age of fourteen as if he had commenced to work seriously some years sooner. Those who are able to pursue their studies beyond the age of fourteen would not feel the same repugnance for work as many of those who have had their brains tormented, from the age of six or seven, with the rules of arithmetic, and those appertaining to the participle, of which they in reality understood nothing.

The second category of primary schools should comprise pupils above the age of ten, whose studies would be of a more serious nature. We would in no way suppress the gymnastic exercises, but should wish that, as in Germany, a time were set apart for them after the morning and afternoon school, with a view of strengthening the mind which is being developed and trained in a sound and well-formed body.

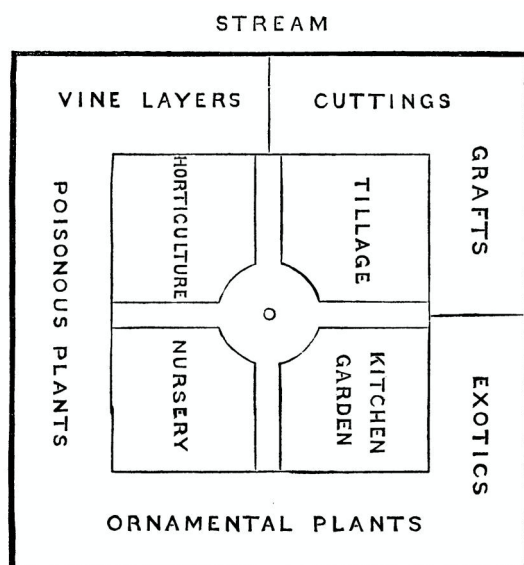
One of our committee had the opportunity of seeing a small practical illustration of our proposed system, during his travels last summer, in a small parish of one of our central departments, where the school-room was spacious and airy. The following plan is pursued by the schoolmaster:—School begins in the morning at 9 o'clock. At half-past ten, the pupils stop working, and go to play. During this interval the room is freely aired. If it be fine, they play out of doors; if, on the contrary, the weather be bad, the benches and tables are scaled, and taken by assault on all sides, and the little ones play about at their ease, and after their own fashion. We have no doubt of the healthy influence imparted to the children by this method, as being fixed to one place is the greatest torture a child can undergo. At ten minutes to eleven silence is again restored, and work continues until noon. During afternoon school the same plan is adopted.

This system cannot fail to produce good results in a sanitary point of view, and the minds of the children become more developed, because they have no aversion for pursuing studies when pleasure and work are combined.

We are not aware whether this measure, to which we attach so much importance, originated with the schoolmaster, or whether the idea was given to him by some higher authority; be it as it may, we do not congratulate him the less for having practically applied it, and we urge his colleagues, especially in the great centres, while waiting for something better, to imitate his plan as much as possible.*

While looking over the drawings of school buildings, of which we have already spoken, we have come across a plan for an agricultural garden, which it is desirable that all country parishes should maintain. This plan, of which a small sketch is given, was attached to that of the school at Bourback-le-Bas, in the canton of Taun:—

* In the system of mutual instruction (Lancasterian system) this rule was strictly observed, for the pupils pursued their studies alternately sitting and standing in class. The changes were made in processional order, during which the children sang. Why has this hygienic system been cast aside?



We are of opinion that the construction of such a garden in all parishes where agriculture is the chief occupation of the inhabitants, would tend to produce a great reform in cultivation and rural economy. It would be the means of compelling some of the farmers to throw aside certain old customs of their forefathers, which many are unwilling to abandon. We in no way blame them for respecting old traditions, nevertheless, if it were explained to them that a change for the better were possible, we should be at a loss to comprehend their hesitation to replace an old system by a new one, the result of careful study under their own eyes and with their assistance.

Those who have lived in the country will have noticed that the lands of the petty farmers are generally the worst cultivated. The cause of this may be attributed to ignorance, which we have before condemned, and to the execrable principles of individualism. The idea of association or partnership, which is beginning to develop itself among the industrial classes as being the only means of saving labour from the oppressive power of capital, does not strike the agriculturist favourably, and the words association and communism are often confounded. There is, however, this difference; whereas citizens, in entering into partnership for the purpose of improving and increasing their productions, are free to live and dispose of their share of the profits as they choose, in communism their powers are restricted, and the principle is an absolute one. This error of the country people is, however, easy to be understood; darkness still reigns over them all-powerfully.

We very much regret that the direction of parish schools should ever be entrusted to celibates, that is, persons voluntarily and absolutely opposed to social principles. Let it not be said that it is with a view of devoting themselves more completely to the cause of humanity that they are unmarried; it is untrue. It is from pure egotism; it is from fear of being burdened with the charges and duties involved by a family. Question discreetly those of your fellow-workmen who boast of the charms of celibacy, and you will be convinced that we are in the right. We do not consider that men or women who have renounced the idea of a family are suited, or possess the qualifications necessary to train the heart and mind of children whom nature has destined, in their turn, to become, one of these days, fathers and

mothers. Common sense prevents us from entertaining the idea that one can teach principles contrary to those one professes without running the risk, in wandering, of leading those astray whom one has undertaken to educate.

We desire the suppression of work-rooms entrusted to the administration of women who, having as we have before said, willingly rejected the sweets of maternity, employ the children of others. We know families who have withdrawn their daughters from such places *because* they were becoming hump-backed, from the quantity of needlework imposed upon them. One, amongst others, at the age of eight, had acquired in one of these dens the grade of work-mistress; it seems incredible, but it is, nevertheless, the truth. The young girl, now mother of a family, could testify to the fact, as well as her relations who withdrew her from the hands of those speculators who, in the name of Christian charity, would have rendered their pupil a deformity.

As to the nature of the punishment inflicted on those who have not behaved well, or rather who have not finished the amount of work imposed upon them, it is sufficient to question some of the children on the subject, to be convinced of the productive imagination of these hardened hearts, in discovering a number of little refinements of cruelty, which remind us of the gentle chastisements inflicted by the "Holy Inquisition."

As the labour costs them almost nothing, establishments of this kind do a great deal of injury to house-wives and young work-women, who have no other resources by which to gain their livelihood than by the work of their hands. We do not desire that a professional school for girls should be organised after this method.

If we deprecate institutions directed by religious bodies, it is not because those entrusted to laymen are faultless; on the contrary, there are many that are not managed as they should be. We would wish that a committee of the heads of families, renewable every six months, should be charged with the frequent inspection, in all quarters, of the free and parochial institutions, with full power of bringing moral pressure upon those directors who, for any reason, may have incurred censure.

We owe a special tribute of praise to the efforts that are being made daily for the education of the deaf, dumb, and blind. Several methods for facilitating their intercourse with the world will contribute to the possibility of their receiving employment. We must also refer to the singing schools, which were largely and worthily represented in Class 89. We cannot but approve of this excellent plan of bringing men together, even for amusement. Citizens invariably derive some benefit from being brought together, whatever the motive. The formation of a district or parochial choral society is, in fact, an association, the success of which augurs well for those devoted to other objects. The taste for music, however, must not supersede that for study. There are some young men who devote too much of their time to singing, and not sufficient to their books.

Evening classes, established for the benefit of apprentices and adults, and due in the first instance to private initiative, have received special attention from the present Minister of Education, and, thanks to the appeal made by him to devoted and intellectual men, the adult classes, which, on the 1st January, 1864, only numbered 5,623, had increased, on the 1st April, 1867, to 32,383, diffusing beneficial knowledge to 829,555 pupils.*

* In referring to the statistical tables on public education, we find the following information:—33,383 classes for adults, under the direction of 39,466 teachers (men and women) and assistant teachers, are attended by 829,555 persons, of which 747,002 are men, and 82,553 women. Out of 110,503 persons who could neither read nor write on joining the classes in October, 1866, 87,211 could at least read on the 1st April, 1867. Of the teachers, 12,632 have given their services gratuitously to these adult classes, which they opened in October, 1866, and 8,981 have even contributed the expenses attending lighting, heating, &c., amounting to 234,620 fr. 29 c. We heartily join with those persons who have established rewards to be distributed to the teachers, and we only regret that there are not as many rewards as there are devoted teachers.

These classes ought to be better attended, for the number 829,555, represents but a small portion of the ignorant. We should be glad to see those who are **concerned** take advantage of the distribution of this moral and intellectual food which is daily held out to them, but, alas, the state of poverty of a great number of workmen renders them insensible to anything that they consider would not better their daily existence. Deprived of some of the actual necessities of life, the word "foresight" is, to them, a term void of reason or common sense.

Good-will is not wanting with any of them; on the contrary they all desire fervently to receive instruction, but they are unable to do so, because by eight o'clock in the evening, when the classes open, they have had fourteen or fifteen hours of hard manual labour. They go to their homes worn out with fatigue, and after having hurried through a meagre supper, are only too thankful to seek in repose and sleep, renewed vigour and forgetfulness of the toils of the day.

We do not hesitate to say to moralists that they exhaust themselves with vain speeches, when they say that the best method of improving the manners of a people lies in the improvement of their condition. Let the workman find his material wants and those of his family satisfied, in exchange for his fatigues and the plenty that is procured to society by his labour, and his manners will soon become softened, he will not so often frequent the tavern, encouraged by government, because, on returning home after the day's work, he will be rejoiced to find his family in want of nothing. Evil thoughts would not take possession of his heart, and he would then be happy and proud to be able to acquire, during a couple of hours of an evening, such knowledge of the useful sciences as others may be pleased to teach him. But as long as a workman, from the present state of organisation of labour and division of taxes, is condemned to support a family as if it were a plague, instead of regarding it as a benefit, it will require a good deal of ill-will not to comprehend that, at every instant, revolutionary thoughts will enter his brain against a state of things that reduces him to so miserable a position.

We do not approve of the reasons, although we understand them, that keep ignorant workmen away from these evening classes; on the contrary, we would endeavour to convince them of the happy influence that education exercises on our future destinies. We agree with the Minister of Education, who, when at Lyons, on the 23rd June, 1867, said:—"I do not for a moment imagine that, in the twenty-six letters of the alphabet there lies hidden a magic virtue by which all who possess it are transformed; but, I am persuaded that, with the majority of men, there is a necessary connection between the enlightened mind and the purified heart. The schoolmaster places in the hands of his pupils a key, which to some is a key of lead, and, being pliable, is easily bent, and becomes useless, or even dangerous; while to others it is a key of gold, capable of opening the doors that lead to everything, and, first, to the knowledge of right and honesty. Let us, therefore, educate children in primary schools, which must be increased in number; adults, in evening classes, which we must maintain and extend; young girls, in professional schools, which we must establish; and those girls who are not in want of situations, in more advanced classes, which we must open. In fact, both for women and children, we must increase the hours of study, and lessen those of labour."

In a word, evening classes are a successful institution, which, if education become compulsory, will enable young men to complete their studies in those branches of which they had received but a faint notion, in their days of childhood, from the schoolmaster.

Next to the evening classes, we notice represented the system of education of a secondary and more special nature, on which is founded the institution of technical schools, which we desire to see established on a larger scale, and made more accessible to workmen.

We have before us a work, which may be seen at the office of our association, 50, Rue Turenne, and for which we are indebted to the Secretary-General of Public Education, entitled "An Inquiry into the System of Technical Education," in which we find, with much useful information, the views expressed by a number of our eminent authorities on the subject.

From this work we deduce the following opinion, and with the greater satisfaction as, not being able to express ourselves in the language of these learned men, we find our views have coincided with theirs, namely, that the development of advanced schools of arts and trades would not be impeded by the extension of primary education, or by the reduction of the working hours of apprentices at the workshops, with a view to giving facilities to the children to attend a theoretical course of instruction, organised by private initiative, and maintained, not by the State, but by the different municipalities.

M. Montjean, director of the Chapal Municipal College at Paris, when asked his opinion on the establishment of a special system of education for apprentices, remarked, "I think that in all cases, with the exception of agriculture, a system of special education would not be productive of the results that might be expected. The best, most efficient and practical school for apprentices is the workshop for the artisan, and the counting-house for the merchant."

The establishment of working men's associations is, in our opinion, of great importance towards the organisation of special courses of instruction in each trade. The men whom we are about to select to compose these associations will take the initiative, which we must make every effort to support, of promoting the industry of France, so that it may acquire fresh victories at any future pacific and international contests.

While sharing in the opinion of M. Montjean, we would add that a school for apprentices would not possess the proper elements for the formation of good and clever workmen. In the workshops, one meets with excellent, practical workmen, who for various reasons would not be admitted as teachers in a technical school, and yet they make clever and ingenious artisans of the apprentices entrusted to their training. It would therefore only be requisite, in order to complete their industrial scientific knowledge, to make them acquainted with the nature and source of the materials they use. This they would acquire at the night classes, as well as the various processes which a workman only learns from continually changing from one workshop to another.

It is said that the schools of "Arts et Metiers" (Arts and Trades), and the agricultural schools would not produce the results that we have a right to expect. The unanimous opinion of artisans is, that no pupils should be received in the former until they had passed two years in a workshop, because the time allotted to practical instruction during the three years they remain at the school, is not sufficient to ensure them manual dexterity. As regards the latter, we consider any failure is due to the fact that not even an elementary knowledge of the subject is at present taught in any of the preliminary schools. Agriculture, in one respect, does not differ from other sciences; in that a preliminary knowledge must be acquired in order to comprehend the utility of a further investigation.

Government has undertaken the mission of sending men, specially qualified, to initiate agriculturists in any new methods of cultivation, or in any great discoveries relating to the theory of agriculture. We would wish to see the extension of these missions to all the rural districts, in the form of conferences. This system would be of greater benefit to the farmers.

Should not the large rural estates be, as it were, so many model-farms, the management of which would offer to those who possessed them as many attractive pleasures as the more or less repeated visits to the cafés on the boulevards of the capital, or the nights spent in gambling.

Why is not the same value attached to being the winner at an agricultural contest, as at a race-course? And yet it seems to us that, in gaining the laurels of an agricultural meeting, there should be a two-fold satisfaction; first, the glory of being distinguished from one's fellow-citizens; and, secondly, the fact of having bestowed on, or performed some good for, the country in general.

While touching on the subject of model-farms, we cannot too highly commend to the attention of men desirous of assisting in the diminution of poverty, the scheme for an agricultural reformatory-farm, by M. Nicholas, of Lyons. In a small pamphlet, sold for the benefit of the undertaking, the author explains, as a man determined to act for a good cause, how it might be arranged:—1st. To retain the inhabitants of the rural districts for agricultural purposes; 2nd, to keep the destitute children of large towns from a sojourn in prison; 3rd, to offer to agriculturists the advantage of sending their children to pursue a course of theoretical and practical study in agriculture, arboriculture, and horticulture.

Everyone is more or less acquainted with the system of organisation and administration pursued in primary schools, but few are aware of the efforts and struggles that are made against the old routine and prejudices by some eminent men who have devoted their time to the practical introduction of simple and ingenious systems. Among those devoted to the cause of humanity may be mentioned M. Youanne, director of the Maison Rurale d'Enfants, at Pny (Seine Inferieure), the system of which is founded on the free expansion of the natural faculties of the child.

As we have again spoken of children, we will take the opportunity of expressing our approval of the views expressed by M. Marsilly, President of the Industrial Society of Amiens:—"Our laws sanction the employment of children under 12 years of age in all industrial establishments, but it is required that they should also attend school; this is found difficult to arrange. In Germany, on the contrary, children are not allowed to be employed in manufactories under 14 years of age, until which time they are excluded from the workshop, and are compelled to go to school. They are further required to be able to read and write before entering any manufactory. I consider it would be of great advantage if the French law would also raise the standard of age for the employment of children in manufactories."

M. de Marsilly has not, however, stated at what age he would propose that the children should be admitted. We desire that the example set by our neighbours should be followed, viz., that no child should be received at any industrial establishment under 14 years of age.

We also desire to see our fellow-workmen follow our example, in subscribing weekly the small sum of 10 or 15 centimes (1d. and 1½d.) for the purpose of establishing social libraries, which would afford them amusement, and give them the advantage of being able to read works, the price of which is beyond their reach.

And this would not be the only benefit derived. The establishment of social libraries, like that of singing classes, would offer the advantage of bringing men together for an amusing and, at the same time, useful purpose.

To the reading-room might be annexed a debating room, in which the various members could in turn discuss topics which are of interest to the whole world. Newspapers might also be received, and thus enable the members to acquaint themselves with the passing events of the day, and to keep abreast of everything that bears the name of "progress."

The prevailing fault among workmen is indifference; and this indifference arises from ignorance, caused by a system of isolation. Hence the sad habit of expecting everything from the State, which they consider should

provide even for their smallest wants. If they were to examine themselves, however, they would understand that there are in society certain private interests at stake which it would be imprudent to leave to the defence of others.

We should like to see social libraries* successfully competing with the wine dealers and coffee-house keepers. If in the populous districts the workmen were really willing, it would not be difficult for them to effect this transformation in their habits, now so disastrous to their families.

In the common interest of society, it is the duty of all persons well-disposed, and who take the lead, to diffuse the idea, and urge the formation of similar institutions; they would be sure of assistance.

In bringing to a close that portion of our report relative to education, we cannot refrain from expressing our gratitude to the government that first seriously considered the question of the education of the people, and that government was the Constituent Assembly—the terrible Convention which contended against the whole world, and against France itself. This assembly, in spite of the dangers with which it was beset, was sufficiently powerful to lay down the first principles of popular education. It was amidst that tempestuous season, when each moment threatened some new danger, that the government examined the different systems brought under its notice. One of the members exclaimed, while listening to the rumbling of the revolutionary storm, "If we are able to establish a system of education, we shall have fulfilled our mission." And true it was; and he who made the remark was a prophet; for that single decree of August sufficed to immortalise the assembly; and we, children of the people, are rejoiced at being able to express our gratitude to those who, in the midst of perils, have laid in the sand a foundation of stone on which to build a monument of social education.

If education is not diffused throughout the empire, no blame can be attached to the famous Jesuitical law of 1850, which, in spite of all that has been said to the contrary, was prepared with great power, and to the people's benefit. The greatest censure should fall on the State which is so mean in regard to education, and so liberal towards the maintenance of an army, or the prosecution of a war. They haggle over two sous for a school, and expend two millions on barracks, convents, and churches.

The following table is also taken from the map by M. Manier, and shows the proportionate amount expended by some of the European States for military and educational purposes respectively:—

NAME OF COUNTRY.	Proportional Part of the State Budget allotted to	
	Military Purposes.	Public Education.
France	0.295†	0.011
Austria	0.270	0.019
Prussia	0.276	0.014
Bavaria	0.219	0.022
Wurtemberg	0.218	0.047
Saxony	0.214	0.037
Grand Duchy of Baden ...	0.181	0.033
Kingdom of Hanover	0.128	0.013

* If we persist in recommending the establishment of social libraries, it is because the works they contain are chosen by the members themselves, which is not the case in those libraries supported by government for the promotion of popular education.

† That is to say, that out of 1,000 francs expended by the State, 295 francs are allotted to the requirements of the War Department, and 11 francs for Educational purposes.

PUBLIC WORKS IN THE METROPOLIS.

Considering the labour which a Committee of the *Society* took, in the last session of Parliament, to preserve the Thames Embankment, it is right that the following letter from Lord Elcho to the *Times* should be inserted in the *Journal*:—

"SIR,—I could hardly believe my eyes when I read of the transfer of Mr. Layard to Madrid, and of Mr. Ayrton to the Board of Works. A more successful putting of square men into round holes has never been effected, and I think it would be well for all who are interested in the metropolis and its future now to consider the way in which the office of First Commissioner of Works is dealt with by successive governments.

"If the First Commissioner is to be viewed simply as the head of a department, charged to administer it on narrow, utilitarian, and economical principles, in the application of which he is to exercise a rigid parsimony, worrying and snubbing all with whom he has to deal until he makes his office too hot to hold him, then, perhaps, it matters not, as regards the embellishment of the metropolis, who may, for the time being, be in power in Whitehall. But if, on the contrary, it is acknowledged, as is professedly done, that the government of a great nation, calling itself civilised and cultivating the arts, should, in the erection of public buildings and monuments, seek the embellishment of the metropolis and the improvement of public taste, then the office of First Commissioner must be considered as being of first-rate importance; and so long as it remains a political appointment it is the duty of the government to seek out the fittest man they can find in the whole army of their followers, and, having done so, to give him the authority and support necessary for the proper administration of his department. Is this done? Has it ever been done? Look back at the appointments for the last thirty years, and say how many of those who have held the office recently filled by Mr. Layard have been appointed through special fitness for it, on account of their known and acknowledged taste in architecture and art. I can name one—one man only in thirty years, whom any of us would in private life have consulted as to the building of a house, the erection of a statue, or the purchase of a picture, or, indeed, on any other matter into which art entered. That man is Mr. Layard. He, having, as he told the House last session, when that most ungenerous and unfounded party attack was made upon him, devoted his life to art, entered upon his office with high hopes and aspirations, knowing what a field was open to him, conscious of the will and power to work, and hopeful of setting his stamp upon our great city. Within a year he leaves his office, hopelessly discouraged, having met with opposition where he had a right to expect support, and, finding himself powerless for good, he is naturally unwilling to be held responsible for acts, or for the neglect of opportunities for which he is not to blame. One of his first acts on coming into office was the appointment of the well-known architect, Mr. Fergusson, as one of the permanent Secretaries of the Board. He, also, I hear, is about to resign, which, while it grieves, does not, under the circumstances, surprise me.

"Of Mr. Layard's successor I say nothing, save that no name would have less readily occurred to any one who has given a thought to these subjects, and that there never was a time in the whole history of this office when the person chosen to fill it should have been more carefully selected on account of special fitness. The completion of the Thames Embankment, and a combination of circumstances, now offer the opportunity of making London one of the grandest cities in the world, and not only the government of the day, but we all in our generation, will have a heavy reckoning with posterity if the opportunity thus offered is allowed irretrievably to slip.

"Pray, then, use your influence to raise the office of

First Commissioner into a Ministry of Works, and into that Cabinet importance which is essential to the proper unhampered discharge of its functions. Above all, endeavour to prevent these appointments being thus made to meet the necessities of the Prime Minister of the day, and not the wants of the office itself.

"I remain, your obedient servant,

"ELCHO.

"St. James's-place, October 29th."

Colonies.

STATISTICS OF NEW SOUTH WALES.—At the time of the separation from Queensland, in 1859, there were in this colony 177 grinding-mills, which have now increased to 181, and there were 549 manufactories, works, &c., which have increased to 3,564. In 1859, there were 247,000 acres of cultivated land; there are now 434,873 acres. Of these, in 1859, 94,000 acres were under wheat; in 1869, 104,000. The increase in the produce has been 321,000 bushels. In 1859, 577 acres were cultivated as vineyards, against 1,917 acres in 1869, and the quantity of wine produced increased by 316,000 gallons. The increase in the number of horses, since 1859, is 68,000; increase of sheep, 10,000,000; increase of pigs, 57,000. There is a decrease of 369,000 head of horned cattle. There is an increase in the total value of the imports, since 1859, of £1,454,000, and in the exports of £2,024,000. The population of the whole colony, in 1859, was 114,386, and last year it was 466,739.

THE COLONY OF VICTORIA.—In less than twenty years the population has swelled from 70,000 to 700,000. The straggling hamlet beside the Yarra is now the largest city and the busiest seaport in the southern world, and the country, which then shipped a few bales of wool and casks of tallow, has become the richest and most commercial member of England's colonies. The gold discovery, which immediately succeeded local independence, wrought the change; but gold discoveries have inaugurated no such extraordinary changes in other colonies. Here progress was sustained even when the yield fell off, and Victorian prosperity has now many props besides the particular pursuit which so suddenly created it.

Notes.

LECTURES ON NATURAL SCIENCE.—Professor Huxley will give his introductory lecture, on Tuesday, November 9th, at 11 a.m., at the South Kensington Museum, for which tickets may be obtained at half-a-crown. The course is intended especially for women, and the charge will be £2 2s. for thirty lectures; but governesses and teachers of schools are admitted upon lower terms, and even men will not be excluded if there be room.

THE INDIAN GOVERNMENT AND THE CIVIL ENGINEERS.—The Indian Government having made a public notification in *The Gazette of India*, wherein it is assumed to be a "recognised practice" in England "for civil engineers employed by public companies and otherwise, to receive, in addition to the salaries paid them by their employers, commission on contracts given out, or on stores and materials ordered or inspected by them, and other like pecuniary considerations for services done, or intended to be done, which are considered legitimate sources of emolument," the Institution of Civil Engineers at once took the matter up, and passed resolutions, repudiating in the strongest terms that such was the case; and a deputation, headed by the president, Mr. C. Hutton Gregory, have brought the matter before his Grace the Duke of Argyll, who has promised to communicate with the Governor-General of India, and ascertain the circumstances under which the notification in question was issued.

INTERNATIONAL STANDARD MEASURES.—The metrical

system and the standard measures of France have occupied the attention of the Academy of Sciences of Paris more than once of late. M. Chevreul, the eminent chemist, took an opportunity to protest scientifically against the adoption, for the purposes of a standard measure of length, of a measurement of a portion of a meridian of the earth, which had not at the time, and has not yet, been positively determined, but for practical reasons arrived, as Puissant and a commission of the Academy had already done, at the conclusion that the standard mètre of the year VIII, preserved in the archives of France, should be maintained, and proposed that an international commission should undertake the work of multiplying copies of such mètre and other standard measures, calling to its aid for such purpose all the scientific means in existence. A note was read before the Academy, showing that the Academy of St. Petersburg, adopting the same ideas as M. Chevreul, had expressed the desire that its members should, in future, use none other than the French metrical system in their publications; that it had constantly recommended its adoption by the various branches of the Russian administration, the universities, and scientific corporations; and stating that next year the meteorological observations in Russia will be published in the metrical system. At a subsequent meeting of the Academy, it was announced that the Berlin Academy of Sciences had adopted the decision of the St. Petersburg Academy respecting the metrical system, and accepted the existing mètre and kilogramme as absolute standards of measure, and joined in the recommendation of an international commission for the production of prototypes. The assent of the Royal Society of Great Britain to these propositions is hoped for as all that is needed for the adoption of a general international metrical system.

SCIENTIFIC PRIZES.—Dr. Lacaze, who has left his fine collection of pictures to the Louvre, has bequeathed twelve thousand pounds to the Academy of Sciences of Paris, to found three biennial prizes, of four hundred pounds each, for the most important works on physiology, natural philosophy, and chemistry. The conditions of the bequest are that the prizes shall not be divisible, and that they shall be open to competition by foreigners as well as Frenchmen. Should they be won by scientific men of other nations, says the testator, the honour will still remain to France, that the prizes resulted from a French donation, and were awarded by a French Academy.

POSTAL ARRANGEMENTS.—It has been arranged between the postal authorities of England and France that the charge for a single letter shall be reduced from fourpence to threepence, and its weight raised from a quarter to a third of an ounce (ten grammes). This measure has been postponed for years on account of the difficulty which would attend the division of an ounce into three parts. A special weight, equal to $5\frac{1}{3}$ drachms, will, we presume, have to be employed, but this is not quite equivalent to 9½ grammes. It is unfortunate that, in a matter of so much importance for both countries, the initial weight of half-an-ounce, which is that of all England, and also of Paris, could not have been conceded. The change will not come into operation until the arrangement has been sanctioned by the Corps Legislatif, and will probably commence with the coming year. The Austrian government has introduced a novelty in postage, which might be introduced with great benefit in all countries. The object is to enable persons to send off, with the least possible trouble, messages of small importance, without the trouble of obtaining paper, pens, and envelopes. Cards of a fixed size are sold at all the post-offices for two kreutzers, one side being for the address and the other for the note, which may be written either with ink or with any kind of pencil. It is thrown into the box, and delivered without envelopes. A halfpenny post of this kind would certainly be very convenient, especially in large towns, and a man of business, carrying a few such cards

in his pocket-book, would find them very useful. There is an additional advantage attaching to the card, namely that of having the address and post-mark inseparably fixed to the note.

Correspondence.

THE CHANNEL PASSAGE.—SIR,—As Mr. Scarth, in the last number of the *Journal of the Society of Arts*, requested your advice as to the best course for him to pursue in bringing to perfection and introducing into general use his plan for reducing or annihilating the effect of pitching and rolling of a ship on a suspended cot, and so relieving landsfolk of that scourge of comfort in voyages—sea-sickness; allow me to suggest to you, as one thing to which it may be desirable to direct his attention, a perusal of my communication to the Society on the same subject, entitled, “A Swing Cot for Sea Voyages,” printed in the *Journal of the Society of Arts* for Jan. 4, 1861. At the time my plan was devised (in 1833), which, as there stated, proved completely successful, and a source of unspeakable comfort during a long voyage, often in a very agitated sea, the use of Mr. Brockedon’s india-rubber ties had not become common. It is very likely that Mr. Scarth’s proposal for their use may prove available (though, in case of fracture, on a long voyage, they are not so easily replaced as cord or pack-thread); and, in the event of their adoption, I would suggest the use of four such, radiating upwards from a ring in the cabin floor, vertically below the centre of the cot (to attach to its four corners), rather than downwards from the cot centre to four rings in the floor, as proposed by Mr. Scarth. Being on the subject of elastic bands, allow me to refer to a suggestion which I took occasion to make some time ago, relative to the proposed transfer of a very delicate astronomical instrument over a long and rude land journey, viz., its suspension by a set of such bands, radiating from it in all directions—upwards, downwards, and sideways in the interior of an iron cage, free of all contact (Mahomet’s coffin-like), the whole to be packed in a wooden case, for mule, camel, or coolie transport. For the cot, however, I hold to the cord and pack-thread system, not only as the cheapest and most readily replaced, but as being easily adjustable by trial to the exigencies of the case, by tightening or loosening, as circumstances may require, which the india-rubber bands in ordinary use are not. They require, too, no rings in the floor, which, in the day-time, when the cot is removed, and the cabin used as a sitting-room (as is very desirable in long voyages), would be much in the way.—I am, &c., J. F. W. HERSCHEL.

Collingwood, October 30th, 1869.

MEETINGS FOR THE ENSUING WEEK.

- MON.....R. Geographical, 8½.
 TUES ...Ethnological, 8. Mr. C. T. Gardner, “On the Chinese Race; their Language, Government, Social Institutions, and Religion.”
 Civil Engineers, 8. 1. Mr. John Ellacott, “Description of the Low Water Basin at Birkenhead.” 2. M. Jules Gaudard, “On the Present State of Knowledge as to the Strength and Resistance of Materials.”
 WED ...Geological, 8. 1. Mr. Charles Moore, “On Australian Mesozoic Geology and Palæontology.” 2. Mr. Charles Moore, “On Plant and Insect Beds in New South Wales.” 3. Professor Huxley, “Further Evidences of the Affinity between Dinosauria and Birds.” 4. Professor Huxley, “On a new genus of Dinosauria (*Hypselophodon*).”
 THUR ...Zoological, 8½. Prof. Flower, “On the Anatomy of the Aard-Wolf (*Proteles cristatus*).”

Patents.

From Commissioners of Patents’ Journal, October 29.

GRANTS OF PROVISIONAL PROTECTION.

Alarums—2721—A. Lacanau.
 Alcoholic drinks, aerated—2589—A. M. Davis.

Alcoholic liquors, distilling—2930—J. Wallace.
 Alimentary substances, closing and securing vessels containing—2989—L. A. Lesage.
 Animal and vegetable matters, desiccating—2981—R. J. Ellis.
 Animal and vegetable substances, preserving—3061—W. E. Newton.
 Balls and mallets used in croquet, &c.—3026—W. Rogers and G. Tidcombe, jun.
 Belts, fastening the joints of—2969—W. Lincolne.
 Billiards, &c., apparatus for registering—2980—J. Hartley.
 Bird cages—2475—M. Wilson.
 Boots and shoes—2955—T. Greenwood and J. Keats.
 Bridges, constructing—3043—M. Henry.
 Carding engines—3029—G. Collins.
 Carriages—3056—W. Heywood and J. Bottomley.
 Carriages, boats, &c., propelling—2966—E. Brown.
 Cast-iron, producing wrought-iron and steel from—2953—E. A. Cowper.
 Castors for furniture—3018—J. Horton.
 Cattle trucks—2949—A. Welch.
 Cattle trucks—3039—A. Welch.
 Cisterns, &c., apparatus for drawing and preventing waste of water from—2933—J. Chandler.
 Coal gas, purifying—3036—A. P. Price.
 Cocks, taps, and valves—2959—E. A. Snuggs.
 Concrete and cement buildings, &c.—2921—J. Duckworth, T. Hindle, and G. B. Jerram.
 Corkscrew and carriage key, combined—2994—E. L. Parker.
 Cotton, &c., machinery for cleaning, &c.—2995—J. Taft and J. C. Edwards.
 Cutlery, &c.—3053—A. Munro and W. B. Adamson.
 Dish covers, &c.—3013—H. Smith.
 Drags applicable to waggons, &c.—2976—T. Parry and J. McHardy.
 Drawings, &c., apparatus for facilitating the copying of—2986—F. M. Cotton and W. Field.
 Fabrics, machinery for manufacturing—2999—E. Roe.
 Fabrics used as a sacking for bedsteads, &c.—3040—A. V. Newton.
 Fans, pumps, and machinery for propelling air fluids, &c., by centrifugal force—2979—C. Brakell.
 Fire-arms—2970—J. H. Selwyn.
 Fire-arms, breech-loading—2965—E. Farrington.
 Fluids, apparatus for measuring—3008—J. Walker.
 Forks and spoons—2978—W. Challiner.
 Furnace cisterns used in glass making—2831—W. Blunn and J. Wild.
 Gas burners, &c., apparatus for lighting—2972—L. M. Casella.
 Glass furnaces—3014—J. H. and W. Lyon.
 Glass furnaces—3062—H. Percival.
 Heating apparatus—3048—J. H. Johnson.
 Horse shoes, elastic—3015—W. E. Gedde.
 Hot-water boilers, constructing—2931—W. J. Jones.
 Injectors for feeding steam boilers with water—2469—R. F. Fairlie.
 Iron and steel, smelting—2988—C. W. Siemens.
 Iron, &c., attaching cements to—3057—J. F. Crease.
 Iron, &c., purifying—3058—A. Brady.
 Kitchen ranges—2964—W. Bennett and J. Currall.
 Latches and locks—2963—M. Andrew.
 Latches or locks—2913—A. and W. Coleman.
 Lifting apparatus—3011—E. T. Hughes.
 Liquid carbons, burning—3009—J. W. Robinson and T. Murray.
 Liquid hydrocarbons, vaporising and burning—2962—J. B. Blythe.
 Liquid soap, manufacturing—3054—J. Scharr.
 Liquids, &c., obtaining and applying power by means of—2845—G. Hinton.
 Locomotive engines, &c.—2761—W. Black and T. Hawthorn.
 Looms—2937—D. Bowden, R. C. Stephenson, and J. Myers.
 Looms—2960—R. L. Hattersley and J. Hill.
 Looms—3024—J. Raper, M. Pearson, and D. Mills.
 Metal bars, machinery for heating and delivering—3022—A. Angell and J. J. Perry.
 Metal rods, &c., rolling or reducing—2835—H. Hughes.
 Metal surfaces for advertising purposes—3001—D. Brown.
 Motive-power, &c., applying electricity to obtain—2935—R. L. Hixes.
 Nail-making machines—2939—J. H. Johnson.
 Needles, incasing packets of—2983—W. E. Gedde.
 Needles, &c., cases for holding—3035—R. S. Bartleet.
 Nuts for screw bolts—3041—W. R. Lake.
 Packing-cases for bottles, &c.—2491—C. L. Page.
 Packing for buckets, &c.—3002—L. Byrne and W. Payne.
 Paper, machinery used in the manufacture of—2781—W. I. Palmer.
 Paper-making machinery—2992—J. and C. Hudson and J. Hudson, jun.
 Paper pulp, reducing wood to a fibrous condition for the manufacture of—2958—A. B. Childs.
 Photographs, producing in pigments—3049—F. R. Window.
 Pipes and tubes, connecting—3045—A. Evans.
 Potatoes, desiccating and preserving—2749—J. Windsor.
 Presses used in pressing cotton, &c.—2987—S. Wilson.
 Pumps—2975—R. Scholefield.
 Pumps, &c.—2951—G. A. Middlemiss.
 Puddling furnaces, &c.—2971—J. Halford.
 Puddling furnaces, &c., fire-place and grate of—2967—J. Morrison and J. Thomas.
 Railway breaks—2984—J. H. Roberts and E. Simons.
 Railway carriage door fastenings—3052—W. R. Thomson.
 Railway crossings, opening and closing gates of—3050—J. Hudson.
 Railway tickets, &c., apparatus for regulating the delivery of—3010—E. T. Hughes.
 Railway trucks, apparatus for feeding and watering cattle in—2982—W. J. Bonser.

Railways—2957—W. R. Lake.
 Railways—2990—E. Lane.
 Railways and tramways—2521—W. J. Cockburn-Muir.
 Reaping and mowing machines, knife bars and knives for—2977—S. Osborn.
 Rocks, &c., machines for boring—3004—W. R. Lake.
 Sanitary composition for building and ornamenting purposes—2974—J. Kennedy.
 Sewing machines—2927—N. Wilson and W. Campion.
 Sewing machines—3005—W. R. Lake.
 Sewing machines—3047—A. Clegg.
 Sewing machines, holders for supplying thread to—3021—J. J. Nancy.
 Sheep shears, &c., manufacturing—3017—H. M. Marsden.
 Ships' logs, instruments for timing—2973—J. Smith.
 Signalling apparatus—2915—H. Schildberg.
 Signalling by means of electricity—3038—C. E. Spagnoletti.
 Stage lights, arranging—2996—W. Barbour.
 Steam boilers—3060—J. Howard and E. T. Bousfield.
 Steam boilers, high and low water level indicators for—2945—A. M. Clark.
 Stone, machinery for cutting, &c.—3051—D. Jackson, J. Riley, and G. R. Ray.
 Syringes, &c.—3046—W. B. Robins.
 Tobacco, machinery for twisting—2961—T. Cope, J. Hignett, and G. Lander.
 Traction carriage wheels—3059—W. Firth.
 Velocipedes—2947—C. Wyndham.
 Velocipedes, &c., seats of—3044—A. Forder.
 Venetian blinds, &c.—3023—W. H. H. McNeight.
 Warps, preparing for the loom—2778—W. Strang.
 Water colour printing—2993—W. Kloben.
 Water, hydraulic apparatus for raising and forcing—3012—W. B. Leachman and J. Holroyd.
 Water tuyeres for forges, &c.—2929—J. Frearson.
 Wheels for vehicles, &c.—2928—O. C. Evans.
 Window curtains, hanging and drawing—3037—M. Ker.
 Wines, &c., apparatus for heating—2735—W. A. Gilbee.
 Wool-combing machinery—3034—C. & W. Bradley & E. Thackray.
 Woollen fabrics, &c., machinery for milling—3031—J. and W. Bottomley.
 Woollen fabrics, &c., machinery for washing and scouring—3032—J. and W. Bottomley.
 Yarns, &c., bleaching—2941—W. N. Hartley.

INVENTION WITH COMPLETE SPECIFICATION FILED.

Brushes, machinery for manufacturing—3106—J. Sheldon.

PATENTS SEALED.

1346. J. P. Balm and B. Newton.	1465. J. Timmins and J. Gayton.
1349. W. Broughton & T. Steven.	1475. W. Cadogan.
1350. J. Conway.	1536. W. R. Lake.
1357. J. B. Nimmo.	1630. A. Edmann.
1382. A. Cooke.	1801. W. A. Lytle.
1346. J. E. Phillips.	1952. M. Kennedy.
1395. W. Galloway.	2276. T. Parsons.
1396. W. Galloway.	2379. A. Turner.
1441. C. D. Abel.	2434. S. Smith.

From Commissioners of Patents' Journal, November 2.

PATENTS SEALED.

1353. P. Barry.	1425. R. F. Hoppe.
1354. J. Shackleton.	1436. J. Hall.
1355. S. H. Hodges.	1446. L. Wray.
1359. D. P. Wright & C. Butler.	1498. F. Kohn.
1364. C. Topham.	1527. F. Johnson and W. Hatehman.
1366. T. Cockcroft.	1530. J. H. Johnson.
1372. J. Tall and A. Williams.	1541. P. McGregor.
1384. C. Moore.	1559. G. Perkin.
1392. J. Tolson.	1595. W. A. Gilbee.
1399. J. M. Hart.	1714. W. R. Lake.
1403. D. and A. Posener.	1858. B. Hunt.
1405. J. Ramsbottom and T. M. Pearce.	2279. W. R. Lake.
1410. W. Henderson.	2636. R. E. Hodges.
1415. E. S. Copeman.	2674. S. Fox.

PATENTS ON WHICH THE STAMP DUTY OF £50 HAS BEEN PAID.

2756. H. Phillips.	2827. J. J. Holden and S. J. Best.
2758. D. McDermid.	2814. W. Robertson.
2-66. C. E. Brooman.	2832. E. Tavernier and H. W. Whitehead.
2793. E. Alexandre.	2838. J. Deas and R. C. Rapier.
2808. H. M. Nicholls.	2878. T. Hunt.
2785. M. and A. D. Hopkins.	3038. J. L. Clark.
2853. E. P. North.	
2816. J. Dodd.	

PATENTS ON WHICH THE STAMP DUTY OF £100 HAS BEEN PAID.

2910. A. Krupp.	2985. J. Shirt and C. Briggs.
2971. D. Scattergood.	2927. F. Gregory.